

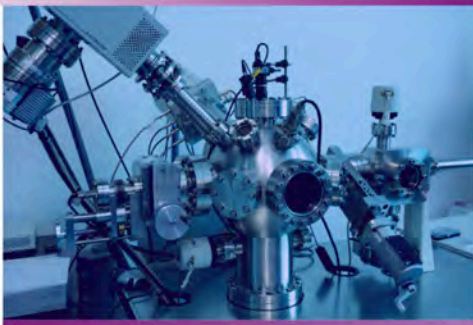


**ICLPR - ST**

**International Conference on Laser, Plasma and Radiation  
Science and Technology**

**June 7-10 2022 Bucharest  
Parliament Palace**

# **Final Announcement & Programme**



[www.iclpr-st.inflpr.ro](http://www.iclpr-st.inflpr.ro)

## SCIENTIFIC COMMITTEE

Chairs: Ion N. Mihăilescu, Valentin Crăciun, Maria Dinescu, Bogdana Mitu

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Ion TISEANU – Romania  
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Marian ZAMFIRESCU – Romania

## EXECUTIVE COMMITTEE

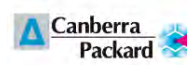
Nicolae-Cristian Mihailescu – Romania  
Felix Sima – Romania  
Gabriel Socol – Romania

## ORGANIZING COMMITTEE

Alexandru ACHIM  
Cristina ACHIM  
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Dorina TICOS  
Mihai ZAMFIR

## CONFERENCE SPONSORS



## GENERAL INFORMATION

### CONFERENCE LOCATION

The conference will be held at the Parliament Palace. The admission to the Conference will be done via C1 entrance, sketch of the admission position is shown on the right image.

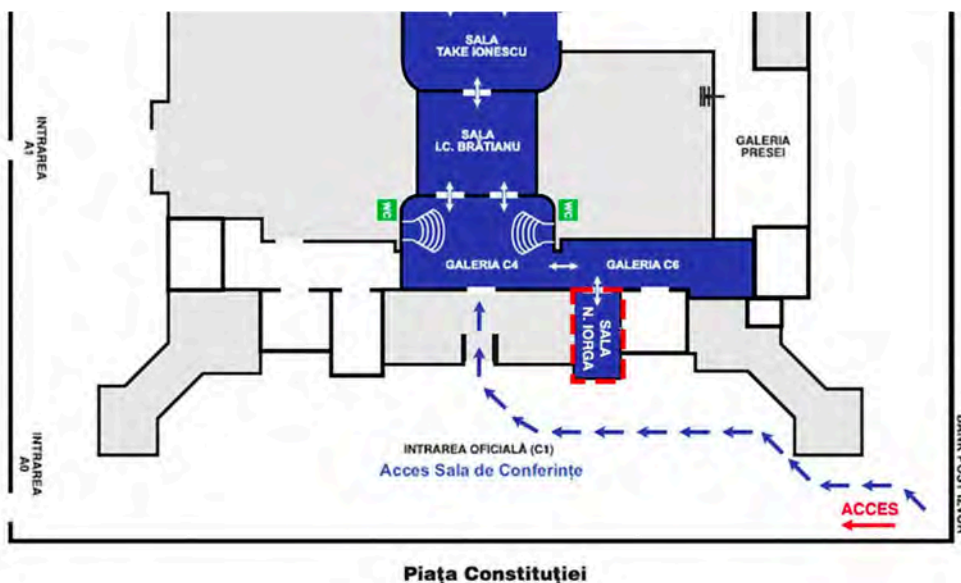
Please get acquainted with [GENERAL RULES REGARDING THE ADMISSION TO PARLIAMENT PALACE](#). In order to comply with these rules, please be sure to have ALWAYS with you the Passport /Identity Card.

**Since there is a thorough check at the entrance, please be sure to be at least 30 min in advance prior the first session each day.**

You will receive the conference badge immediately after this check, please wear it all the time inside the Parliament Palace.

There is a limited number of parking places ensured by the Organizers. However, since several events are taking place at the same time in the Parliament Palace, we cannot guarantee that you will find a parking spot inside the Palace.

The plenary sessions are scheduled in “Nicolae Iorga” Hall, while the poster sessions will be held in Gallery C6 situated near the Conference Hall, as schematically presented in figure below.



### REGISTRATION

Registration desk is situated next to the Conference Hall. It will be opened daily from 8:30 – 16:30.

## SOCIAL PROGRAMME

Bucharest is the capital of Romania, a city with rich history and interesting monuments. There are many possibilities for spending your free time in the old city, such as visiting museums, or having a traditional dish in the local restaurants, etc.

The social program of the conference includes:

- ❖ An **ICE BREAKER** moment during the Poster Session 1, on 8<sup>th</sup> of June
- ❖ Visit to **Parliament Palace** on 9<sup>th</sup> of June, for those registered for the event
- ❖ The **Festive Dinner** on 9<sup>th</sup> of June will take place at **KARTA Restaurant**, Boulevard Unirii 22, București 030167, starting 20:00.
- ❖ **Closing Ceremony Awards**

## CONFERENCE PROGRAMME

The Conference will combine **plenary lectures** with **invited speakers** and **oral presentations**, as well as **poster sessions**. Due to the tight program imposed by the hybrid format of the event, all the presenters are asked to not exceed the time allocated for the presentation, as following:

**Duration of plenary lectures: 40 min + 5 min for discussions**

**Duration of invited talks: 27 min + 3 min for discussions**

**Duration of oral presentations: 13 min + 2 min for discussions**

**Please be aware that the scheduled time of the presentations is EEST time = GMT +3.**

A dedicated space on Gallery 6 is devoted to the **Sponsors Exhibition** during the whole duration of the event.

*Young scientist* prizes will be awarded for 3 best presentations on behalf of INFLPR as conference organizer. Additionally, L'Oreal Romania will offer 3 prizes to women presenting high quality contributions.

The poster sessions are organized ONLY in presence format. Recommended poster size is A0 (841 x 1189 mm), portrait orientation. The participants are kindly asked to hang up their posters before the scheduled session, and to remove them at the end of Poster session.

Contributions can be published upon regular refereeing procedure in special issues of the following ISI journals - **Polymers, Materials, and Coatings from MDPI, with reduced fees**, and respectively **Applied Surface Advances from Elsevier, without any fee**. The Scientific committee will decide which contribution fits better to the proposed journals.

**Please inform the organizers on your intention to prepare a manuscript for submission to the ISI journals as soon as possible.**

All the registered participants, regardless their on-line or on-site presence, will receive by e-mail the conference details connection for the Zoom participation. Please be aware that the sessions will be recorded only for the use of Organizers.

The final programme is available at <https://iclpr-st.inflpr.ro/program/>.



## Final Programme

Tuesday, 7th June 2022

EEST time = GMT +3

08:00 – 08:30

Access to Parliament Palace

08:30 - 09:00

REGISTRATION

OPENING CEREMONY

Chair: **M. DINESCU**

09:00 - 09:30

**George Cristian TUTA** - Quaestor Chamber of Deputies  
**Sorin COSTREIE** - State Adviser, Chancellery of the Prime Minister  
**Hubert Petru Stefan THUMA** – President, Ilfov County Council  
**Mihaela TOADER** - Ilfov County Public Administrator  
**Narcis Catalin CONSTANTIN** - Mayor of the Magurele City  
**Iulian POPESCU** - Secretary of State, Ministry of Research, Innovation and Digitization  
**Adrian CURAJ** – General Director UEFISCDI  
**Cristian Nicolae MIHAILESCU** – General Director INFLPR

Plenary  
session 1.

**Advanced laser - based techniques for material synthesis and processing**

Chair: **I.N. MIHAILESCU**

09:30 – 10:15

**Thomas LIPPERT**

*PLD for preparing model samples using neutron and synchrotron techniques*

10:15 – 10:45

**Razvan STOIAN**

*Ultrafast non-diffractive beams with tunable dispersion; opportunities for smart laser material processing*

10:45 – 11:15

COFFEE BREAK

Plenary  
session 2.

**Plasma driven applications in environment, life-sciences and energy**

Chairs: **P. BRUGGEMAN, M. NISTOR**

11:15 – 11:45

**Annemie BOGAERTS**

*Towards a sustainable future: Plasma technology for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub> conversion into value-added compounds or renewable fuels*

11:45 – 12:15

**Lenka ZAJICKOVA**

*Surface processing with Radio-Frequency atmospheric pressure plasma jets*

12:15 – 12:30

Pascal BRAULT

*Insights into plasma degradation of phenol and sulfamethoxazole using ab-initio molecular dynamics*

12:30 – 12:45

Monica R. NEMTANU

*Synergistic effect of dual processing with Plasma and Electron Beams on Starch*

12:45 – 14:30

LUNCH

Plenary  
session 3.

**Thermonuclear fusion - from fundamentals to experimental**

Chairs: **G. DINESCU, I. TISEANU**

14:30 - 15:00

**Christian GRISOLIA**

*Thermonuclear fusion: some open issues concerning tritium*

15:00 – 15:30	<b>Andrea MURARI</b>	<i>Innovative data analysis tools: from causality detection to data driven theory</i>
15:30 – 15:45	Florin SPINEANU	<i>Common topological concepts in fluid/plasma, optics, materials</i>
15:45 – 16:00	Madalina VLAD	<i>Generalization of the Brownian diffusion to the transport by continuous movements: universal laws and complex special processes</i>
16:00 – 16:15	Calin ATANASIU	<i>Modelling of tokamak plasma disruptions triggered by vertical displacements</i>
16:15 – 16:30	<b>COFFEE BREAK</b>	
16:30 – 18:00	<b>POSTER SESSION 1</b>	

### Wednesday, 8th June 2022

**EEST time = GMT +3**

<b>Plenary session 4.</b>	<b>Modern applications for improved quality of life</b>	<b>Chairs: B. MITU, L. ZAJICKOVA</b>
08:30 – 09:15	<b>Peter BRUGGEMAN</b>	<i>Low temperature plasma science to advance human health and enable a sustainable future</i>
09:15 – 09:45	<b>Gabriel POPESCU</b>	<i>Phase imaging with computational specificity (PICS) for biomedical application</i>
09:45 – 10:00	Aaron PELED	<i>Optimizing RED spectral band fluorescence of various edible plants</i>
10:00 – 10:15	Bianca TATARCAN	<i>Fourier-Transform Infrared Spectroscopy monitoring during the plasma exposure of seeds</i>
10:15 – 10:30	Mohamed Ali ANTOISSI	<i>Comparison of 2.4D treatment in water by non thermal plasma, activated carbons adsorption and coupled non thermal plasma-activated carbon process</i>
10:30 – 10:45	Luiza-Izabela JINGA	<i>Doxorubicin loaded SPIONs - characterization and antimelanoma activity</i>
10:45 – 11:15	<b>COFFEE BREAK</b>	
<b>Plenary session 5.</b>	<b>Laser material processing – 1</b>	<b>Chairs: T. LIPPERT, H. CHAMATI</b>
11:15 – 11:45	<b>Traian DUMITRICA</b>	<i>Computationally guided design of materials: from microelectronics to aerospace applications</i>
11:45 – 12:15	<b>Koji SUGIOKA</b>	<i>Hybrid femtosecond laser processing for fabrication of 3D microfluidic SERS chips enabling attomolar sensing</i>

12:15 – 12:30	Alexandra PALLA-PAPAVLU	<i>Simulated interaction of ns-UV radiation with a polymer dynamic release layer in laser-induced forward transfer</i>
12:30 – 12:45	Dror MALKA	<i>Angled MMI power combiner based on silicon slot waveguide technology</i>
12:45 – 13:00	Florin ANDREI	<i>Photoelectrochemical water splitting properties of LaFeO<sub>3</sub> perovskite thin films</i>
13:00 – 14:30 <b>LUNCH</b>		
<b>Plenary session 6.</b>	<b>Laser material processing – 2</b>	
		<b>Chairs: J.P GAUFILLET, S.A. BELDJILALI</b>
14:30 – 15:00	<b>Peter SCHAAF</b>	<i>Photon-Matter-interaction at the nanoscale: plasmonic nanospheres and plasma mediated defect engineering</i>
15:00 – 15:30	<b>Sylvain LECLER</b>	<i>Glass welding by ultrafast laser: how physics allow high throughput reducing micro-cracks</i>
15:30 – 15:45	Diana CHIOIBASU	<i>Medical devices of Titanium alloys obtained by laser additive manufacturing techniques</i>
15:45 – 16:00	Andrei POPESCU	<i>Analytical modelling of directed energy deposition additive manufacturing processes</i>
16:00 – 16:15	Mihai SOPRONYI	<i>Large area alumina thin film manufacturing technology by PLD</i>
16:15 – 16:30 <b>COFFEE BREAK</b>		
16:30 – 18:00 <b>POSTER SESSION 2</b>		

## Thursday, 9th June 2022

**EEST time = GMT +3**

<b>Plenary session 7.</b>	<b>Advances in optics, laser and photonics</b>	
		<b>Chairs: C. UR, M. ZAMFIRESCU</b>
08:30 – 09:15	<b>Takunori TAIRA</b>	<i>Tiny integrated laser power chip for electron acceleration</i>
09:15 – 09:45	<b>Hassan CHAMATI</b>	<i>Using photons to manipulate the magnetic properties of the XY spin chain</i>
09:45 – 10:00	Gabriel Petrisor BLEOTU	<i>Post-compression experiments. Towards Exawatt lasers</i>
10:00 – 10:15	Dan Gh. MATEI	<i>Fast optical shutter with large aperture</i>

10:15 – 10:30	Andrei STANCALIE	<i>Gamma irradiation of arc-induced Long Period Fiber Gratings for dosimetry applications</i>
10:30 – 10:45	Emil Mihai PAVELESCU	<i>Improvement in photoluminescence of GaAsNP alloys by electron irradiation and rapid thermal annealing</i>
10:45 – 11:15	<b>COFFEE BREAK</b>	
<b>Plenary session 8.</b>	<b><i>Interaction of radiation with matter under extreme conditions</i></b> <b>Chairs: V. CRACIUN, H. CHAMATI</b>	
11:15 – 11:45	<b>Calin UR</b>	<i>Status and perspectives at ELI-NP</i>
11:45 – 12:00	Daniel URSESCU	<i>Prospective HPLS Developments: the future of the Extreme Light Infrastructure</i>
12:00 – 12:15	Ioan DANCUS	<i>The 10 PW peak power laser System at ELI-NP – Status update</i>
12:15 – 12:30	Mihail CERNAIANU	<i>Results of the commissioning experiments at the 1 PW area of ELI-NP</i>
12:30 – 12:45	Liviu NEAGU	<i>Experimental activities at the 100TW laser beam area of ELI-NP</i>
12:45 – 13:00	Olimpia BUDRIGA	<i>Enhancement of laser pulse intensity from <math>10^{23}</math> W/cm<sup>2</sup> to <math>10^{24}</math> W/cm<sup>2</sup> by using a plastic micro-cone target</i>
13:00 – 14:30	<b>LUNCH</b>	
<b>Plenary session 9.</b>	<b><i>Innovative technologies for sustainable future</i></b> <b>Chairs: C.N. MIHAILESCU, N. SCARISOREANU</b>	
14:30 – 15:00	<b>Jean-Paul GAUFILLET</b>	<i>PAMPROD PROJECT “Fabrication of large scale parts by DED Additive Manufacturing, right the first time”</i>
15:00 – 15:30	<b>Selma MEDEDOVIC THAGARD</b>	<i>Electrical discharges in a bubble column reactor: A novel high throughput reactor design for water treatment</i>
<b>INDUSTRIAL WORKSHOP</b>		
15:30 – 16:30	<b>Madalin IONITA</b> – Association Magurele Science Park <b>Liana SOCACIU-SIEBERT</b> – SPECS Surface Nano Analysis GmbH <b>Ion TISEANU</b> - INFLPR	
16:30 – 18:00	<b>Visit to Parliament House</b>	
20:00 – 23:00	<b>FESTIVE DINNER</b>	



**Friday, 10<sup>th</sup> June, 2022**

**EEST time = GMT +3**

<b>Plenary session 10.</b>	<b><i>Thin films and nanomaterials - process control via diagnostics</i></b> <b>Chairs: T. DUMITRICA, J. LANCOK</b>	
08:45 – 09:15	<b>Sid Ahmed BELDJILALI</b>	<i>LIBS analysis for quality control in solar cell production: A theoretical and experimental approach</i>
09:15 – 09:30	Eviprides KYRIAKIDES	<i>Fabrication of thin-film solar cells by Pulsed Laser Deposition</i>
09:30 – 09:45	Stefan Andrei IRIMICIUC	<i>Real-time plasma diagnostics: towards controlling pulsed laser deposition process</i>
09:45 – 10:00	Tian TIAN	<i>Implementation and characterization of a plasma reactor dedicated to antibiotics removal</i>
10:00 – 10:15	Jan HANUŠ	<i>Plasma assisted deposition of TiO<sub>2</sub> nanotubes doped by Ag and Cu</i>
10:15 – 10:30	Bogdan SAVA	<i>Photo-Mobile-Polymer new functionalities by plasmonic resonance, opal/reverse opal structures and laser polymerization</i>
10:30 – 10:45	Mihail LUNGU	<i>Non-destructive examination of cable-in-conduit conductors (CICC) using a multi-scale methodology for correlating the manufacturing stages with mechanical, electrical and magnetic properties</i>
10:45 – 11:15	<b>COFFEE BREAK</b>	
<b>Plenary session 11.</b>	<b><i>Biomedical applications based on laser, plasma and radiation processing</i></b> <b>Chairs: G. POPESCU, G. SOCOL</b>	
11:15 – 11:45	<b>Stefan VOICU</b>	<i>Polymeric membrane materials for biomedical applications</i>
11:45 - 12:15	<b>Murat SEN</b>	<i>Modification of silicone elastomers by ionizing radiation</i>
12:15 – 12:30	Anita Ioana VISAN	<i>Controlled release of antibiotic from composite implant coatings</i>
12:30 – 12:45	Gianina POPESCU-PELIN	<i>Hydroxyapatite-alumina-zeolite composite coatings of natural origin synthesized by PLD for biomedical applications</i>
12:45 – 13:00	Merve Erginer HASKÖYLÜ	<i>Resveratrol-loaded levan nanoparticles produced by electro-hydrodynamic atomization technique</i>
13:00 – 14:30	<b>LUNCH</b>	
<b>Plenary session 12.</b>	<b><i>Modern devices for ultrasensitive detection</i></b> <b>Chairs: M. DINESCU, A. PALLA-PAPAVLU</b>	
14:30 – 15:00	<b>Jan LANCOK</b>	<i>Pulsed Laser Deposited active films for chemical sensors</i>

15:00 – 15:30	<b>Laurentiu BRAIC</b>	<i>Deep-UV photo detectors based on epitaxial beta-polymorph Ga<sub>2</sub>O<sub>3</sub> fabricated by Pulsed Laser Deposition and Magnetron Sputtering</i>
15:30 – 15:45	Florin NEDELICUT	<i>Coanda effect aerodyne – a new platform fit for monitoring environment in wetlands using sensing membranes based on CNT</i>
15:45 – 16:00	Iulia ANTOHE	<i>Development of a polymer based fiber optic – surface plasmon resonance (FO-SPR) sensor for environmental monitoring</i>
16:00 – 16:15	Andrei STOCHIOIU	<i>Highly specific hydrogen gas detection using PMMA/PANI/ Au chemoresistive sensor</i>
16:15 – 16:30	<b>Closing Ceremony and Awards</b>	

## Poster session 1

**Chairs: S.I. VOICU, C. POROSNICU, L. DUTA**

**Tuesday, June 7th, 16:30 - 18:00**

<b>Topic 1</b>		<b>Fundamentals, diagnostics and modelling in laser, plasma and radiation physics</b>
P1.01	Andreea CROITORU	<i>Electron vortices as precursors of the Edge Localized Modes in tokamak</i>
P1.02	Dragos Iustin PALADE	<i>Transport of low-Z impurities in the presence of drift-type turbulence in tokamak plasmas</i>
P1.03	Dragos Iustin PALADE	<i>Effects of non-Gaussianity on turbulent transport in magnetized plasmas and astrophysical systems</i>
P1.04	Madalina VLAD	<i>On the existence of hidden coherent motion of particles and the effects on transport in turbulent plasmas and fluids</i>
P1.05	Octavian Toma	<i>Excited-state absorption in optically-scattering erbium-doped ceramics</i>
P1.06	Alexandru CRACIUN	<i>Vector vortex beams generated by polarization conversion in uniaxial crystals</i>
P1.07	Sid Ahmed BELDJILALI	<i>In-depth analyses of p-type silicon solar cells by laser-induced breakdown spectroscopy (LIBS)</i>
P1.08	Sid Ahmed BELDJILALI	<i>Quantitative analysis of diatomite by laser-induced breakdown spectroscopy (LIBS)</i>
P1.09	Radu UDREA	<i>Sub threshold electrical measurements using Langmuir Probe method</i>
P1.10	Marian MOGILDEA	<i>The assessment of the breakthrough voltage induced by the microwave field in diamagnetic, paramagnetic and ferroelectric metallic wires</i>
P1.11	Adrian SCURTU	<i>Coaxial plasma gun used in space sciences and space applications</i>

P1.12	Maria - Luiza MITU	<i>Chaotic oscillations of Vertically Aligned micro-Rods in Plasma Sheath</i>
P1.13	Dorina TICOS	<i>Rotation of a dust cluster by an electron beam</i>
<b>Topic 2</b>		<b>Advances in optics, laser and photonics</b>
P2.01	Stefania HAU	<i>Luminescence and optical thermometry of the Pr<sup>3+</sup> ions doped Ca<sub>3</sub>(M,Ga)<sub>5</sub>O<sub>12</sub> (M<sup>5+</sup> = Nb, Ta) garnet phosphors</i>
P2.02	Ana Maria VOICULESCU	<i>Luminescence properties and optical thermometry of Er<sup>3+</sup>-Yb<sup>3+</sup> co-doped LaAlO<sub>3</sub> phosphors</i>
P2.03	Angela ENACHI	<i>Upconversion luminescence in BiTa<sub>7</sub>O<sub>12</sub> codoped with Er<sup>3+</sup> and Yb<sup>3+</sup></i>
P2.04	Alin BROASCA	<i>Czochralski growth and characterization of new Pr:LGSB nonlinear optical crystal</i>
P2.05	Madalin GRECULEASA	<i>Crystal growth and characterization of La<sub>0.733</sub>Nd<sub>0.035</sub>Gd<sub>0.452</sub>Sc<sub>2.78</sub>(BO<sub>3</sub>)<sub>4</sub> as a new bifunctional laser and nonlinear optical crystal</i>
P2.06	George STANCIU	<i>Fabrication and laser performances of Nd- and Yb-doped Y<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> transparent ceramics</i>
P2.07	Catalina Alice BRANDUS	<i>Exploring x(2) nonlinearity for mode-locking of Nd:LGSB laser</i>
P2.08	Adrian PETRIS	<i>Direct measurement of ultrafast third-order optical nonlinearity of GaN crystals by third-harmonic generation</i>
P2.09	Adrian PETRIS	<i>Dye-doped DNA biopolymer in organic photonics</i>
P2.10	Petronela GHEORGHE	<i>Optical limiting functionality in novel nonlinear materials</i>
<b>Topic 4</b>		<b>New trends in thin films and nanomaterials synthesis and processing</b>
P4.01	Alexandru ANGHEL	<i>CrN<sub>x</sub> thin films synthesis by N<sub>2</sub> seeding a Thermionic Vacuum Arc Chromium plasma</i>
P4.02	Mihaela GHERENDI	<i>W-N coatings obtained by High Power Impulse Magnetron Sputtering technique</i>
P4.03	Tomy ACSENTE	<i>High-rate stable synthesis of W dust using a magnetron sputtering gas aggregation cluster source</i>
P4.04	Cornel STAICU	<i>Deuterium release behavior from boron co-deposited layers obtained by varying working conditions</i>
P4.05	Paul Pavel DINCA	<i>Influence of temperature and ion energy on deuterium retention in beryllium layers</i>
P4.06	Ana Violeta FILIP	<i>The influence of deposition parameters on properties of rare earth doped boro-phosphate vitreous thin films</i>
P4.07	Valentin CRACIUN	<i>Single crystal metal oxide nanoparticles obtained by using microwave vaporization of metallic wires</i>
P4.08	Anca Daniela CRIVEANU	<i>Parametric study on the pressure in the synthesis of iron oxide nanoparticles synthesized by laser pyrolysis</i>
P4.09	Liviu DUTA	<i>Pulsed laser deposition of hydroxyapatite derived from various biological resources for suitable use in implantology</i>

P4.10	Simona BRAJNICOV	<i>Nanosurfaces with tunable wettability via matrix assisted laser evaporation</i>
P4.11	Agata NIEMCZYK	<i>Using solvents mixtures for EVA copolymer coatings by MAPLE</i>
P4.12	Gabriela PETRE	<i>MAPLE deposited organic thin films based on synthesized oligomers and PC70BM on silicon nanopatterned substrate</i>
P4.13	Valentina GRUMEZESCU	<i>MAPLE processed multifunctional coatings for metallic surfaces</i>
P4.14	Oana GHERASIM	<i>Laser-processed composite coatings for metallic implants</i>
P4.15	Laurentiu Nicolae RUSEN	<i>Biointerfaces based on Poly(N-isopropylacrylamide-butylacrylate) Copolymer obtained by MAPLE for bioengineering applications</i>
P4.16	Irina NEGUT	<i>The role of the magnetite-based nanostructured coatings functionalized with Nigella sativa and antibiotics for the wound care treatment &amp; management</i>
P4.17	Irina NEGUT	<i>MAPLE-obtained bioglass thin films as drug delivery and release systems</i>

**Topic 5**

**Modern applications in environment, life sciences and energy**

P5.01	Maria Luiza STINGESCU	<i>Polymer thin films processed by laser technique for organic solar cell applications</i>
P5.02	Sorin VIZIREANU	<i>Hybrid nanostructures based on vertically graphenes decorated with tungsten oxide nanoparticles for enhancement capacitive performance</i>
P5.03	Alexandra TREFILOV	<i>N-doped carbon nanowalls as microporous layers in PEM fuel cell</i>
P5.04	Cristina NITA	<i>Hard carbon materials derived from eco-friendly biomass for Na-ion batteries</i>
P5.05	Daniel AVRAM	<i>From luminescence thermometry to thermal imaging using lifetime thermometry</i>
P5.06	Claudiu HAPENCIUC	<i>The effect of the contact point asymmetry on the accuracy of thin films thermal conductivity measurement by Scanning Thermal Microscopy using Wollaston probes.</i>
P5.07	Ioan Mihail GHITIU	<i>Bismuth ferrite property engineering through stress and doping – a theoretical investigation</i>
P5.08	Aurelian MARCU	<i>ZnO nanowires SAW sensor: detection and discrimination of hydrogen isotopes</i>
P5.09	Iulia ANTOHE	<i>Highly-sensitive cadmium detection in water samples using a portable plasmonic based optical fiber sensor</i>
P5.10	Florin BILEA	<i>The potential of pulsed corona discharge for antibiotic removal</i>
P5.11	Mihai BONI	<i>System for water treatment based on singlet oxygen micro-nanobubbles</i>
P5.12	Cristina ACHIM (POPA)	<i>Experimental investigation on water adsorption using laser photoacoustic spectroscopy</i>
P5.13	Adriana SMARANDACHE	<i>Microplastics' laser-based detection in microdroplets of water</i>

P5.14	Ionut Relu ANDREI	<i>Micro-droplet temperature characterization using a fibre Bragg grating</i>
P5.15	Ovidiu STOICAN	<i>A planar electrodynamic trap for microparticles storing</i>
P5.16	Monica MAGUREANU	<i>Plasma treatment of sunflower seeds positively affects plant growth and crop yield</i>
P5.17	Ana Maria BRATU	<i>Role of ethylene and ethanol from internal atmosphere of apples under long-term storage</i>
P5.18	Iulia ANTOHE	<i>Ara h 1 peanut allergen detection using a dual-zone optical fiber aptasensor</i>
P5.19	Mioara PETRUS	<i>Atmospheric ammonia concentration measurements in a peri-urban area using a laser photoacoustic spectroscopy detector</i>
P5.20	Cristina CRACIUN	<i>Processing of electrochemical sensors by matrix-assisted pulsed laser evaporation (MAPLE) for nitrites detection in water</i>
P5.32	Valentina GRUMEZESCU	<i>Effective delivery of 5-fluorouracil through polymeric NPs as promising therapeutic strategy in colorectal cancer</i>

**Topic 6**

**Innovative technologies for sustainable future**

P6.01	Sabin MIHAI	<i>Investigation of Ti based metal matrix composite materials obtained by laser melting deposition</i>
P6.02	Florin ANDREI	<i>Plasma assisted thermal oxidation of W foils for photoelectrochemical water-splitting applications</i>
P6.03	Dumitru MANICA	<i>Mechanical testing for Al<sub>2</sub>O<sub>3</sub> layers, prepared by PLD and large area PLD</i>
P6.04	Andreea GROZA	<i>Testing of optical sensors for aquaculture applications</i>
P6.05	Mircea PATRASCOIU	<i>Automation and integration of the vacuum system within the 1 PW laser experimental area at ELI-NP</i>
P6.06	Ionut Relu ANDREI	<i>Chaotic Technology for Experimenting Crypto-Systems</i>
P6.07	Anda STANCIU	<i>Influence of Trapped Magnetic Fields on the Magnetoresistance of Ferromagnetic Layers</i>



**Poster session 2***Chairs: F. SIMA, A. STAIKU, M. FILIPESCU***Wednesday, June 8th, 16:30 - 18:00****Topic 1****Fundamentals, diagnostics and modelling  
in laser, plasma and radiation physics**

P1.14	Alexandru MAGUREANU	<i>Plasma imaging diagnostics for high power lasers experiments</i>
P1.15	Anda Maria TALPOSI	<i>Influence of spatio-temporal couplings on the focus of ultrashort laser fields</i>
P1.16	Vicentiu IANCU	<i>Qualification and Optimization of Helical Phase Pulses in PW-Class Laser Systems</i>
P1.17	Andrei NAZIRU	<i>Spectral Phase Characterization For Ultrashort Pulses Far From Fourier Limit Duration</i>
P1.18	Laura IONEL	<i>Spatio-temporal coupling of ultra-intense femtosecond laser beams in few-cycle regime</i>
P1.19	Rares IOVANESCU	<i>Optimization of PIC simulations for LWFA</i>
P1.20	Mihai OANE	<i>Fourier two-temperature model to describe ultrafast laser pulses interaction with metals: a novel mathematical technique</i>
P1.21	Ion GRUIA	<i>Stretcher-amplifier-compressor high-power laser system for ultra short pulses generation</i>
P1.22	Ion GRUIA	<i>High-power fiber laser equipment for drones/UAV annihilation: numerical simulations</i>
P1.23	Cristian IORGA	<i>The study of laser field-induced dynamics in the photoionization of C III</i>
P1.24	Ioana KUNC SER	<i>Numerical modelling of a fiber optic - surface plasmon resonance sensor employing gold and palladium as plasmonic materials</i>

**Topic 2****Advances in optics, laser and photonics**

P2.11	Iulia ANGHEL	<i>Design of two-dimensional photonic crystals in As<sub>2</sub>S<sub>3</sub> film</i>
P2.12	Mihai KUSKO	<i>Design and fabrication of diffractive corrective element working in mid-IR</i>
P2.13	Petru Vlad TOMA	<i>Microstructures for Dielectric Laser Acceleration fabricated by 3D Laser Lithography</i>
P2.14	Maria Alexandra BRAN	<i>Woodpile structures fabricated in microfluidic channels by laser processing for 3D cellular studies</i>
P2.15	Iuliana URZICA	<i>Patterning of metallic molds surfaces by laser irradiation</i>
P2.16	Florin GAROI	<i>Monochromatic spectrum reconstruction by geometric phase-shifting interferometry</i>

P2.17	Mihaela BOJAN	<i>Interferometric methods for gradient temperature determination in a water droplet</i>
P2.18	Petre Catalin LOGOFATU	<i>Terahertz beam profiling using super-resolution hyperspectroscopy</i>
P2.19	Andrei STANCALIE	<i>Charged particle beam diagnostics utilizing custom designed optical fiber sensors</i>
P2.20	Dimitrii NISTOR	<i>Backreflection monitoring system for high power laser system</i>
<b>Topic 3</b>		
<b>Interaction of radiation with matter under extreme conditions</b>		
P3.01	Alexei ZUBAREV	<i>Particle in cell simulations for direct drive inertial nuclear fusion</i>
P3.02	Gabriela BUICA	<i>Dressing effects in laser-assisted (e,2e) process in fast electron-hydrogen atom collisions in an asymmetric coplanar scattering geometry</i>
P3.03	Natalia MIHAILESCU	<i>One-temperature analytical model for femto-/atto-second laser beam-metals drilling with empirical testing: A novel approach</i>
P3.04	Aurelian MARCU	<i>EMP generation in laser particle acceleration processes</i>
P3.05	Constantin DIPLASU	<i>Analysis of ultrashort laser-driven electromagnetic pulses in correlation with electron acceleration in gas target at CETAL PW- laser system</i>
P3.06	Stefan POPA	<i>Design of colliding microjet target for laser driven experiments</i>
P3.07	Consuela Elena MATEI	<i>QADRO-fm: a new tool for absolute and relative dosimetry in FLASH radiotherapy</i>
P3.08	Ioana POROSNICU	<i>New considerations regarding dosimetry measurements for superficial X-ray irradiation of culture cells</i>
P3.09	Anca SCARISOREANU	<i>Correlations on the structure and properties of collagen hydrogels produced by e-beam crosslinking</i>
P3.10	Ion CALINA	<i>Hybrid hydrogels obtained by e-beam crosslinking</i>
<b>Topic 4</b>		
<b>New trends in thin films and nanomaterials synthesis and processing</b>		
P4.18	Florin GHERENDI	<i>Transparent conducting Nd doped ZnO thin films grown by pulsed electron beam deposition</i>
P4.19	Magda NISTOR	<i>Is another epitaxial relationship of ZnO thin films on c-cut sapphire possible?</i>
P4.20	Daniela DOBRIN	<i>Investigation of hydrogen effect on electrical and optical properties of indium oxide thin films</i>
P4.21	Izabela CONSTANTINOIU	<i>Pd/ZnO sensitive layers by Pulsed Laser Deposition for Surface Acoustic Wave Sensors</i>
P4.22	Evghenii GONCEARENCO	<i>The variation of structural and functional properties of laser processed TiO<sub>2</sub>/SnO<sub>2</sub> binary nanocomposites</i>

P4.23	Sanziana ANGHEL	<i>Control of the metal-insulator transition temperature and the formation of (V, Ti) O<sub>2</sub> solid solution in VO<sub>2</sub>/TiO<sub>2</sub> epitaxial thin films</i>
P4.24	Laura MIHAI	<i>Dielectric properties of BaTiO<sub>3</sub> nanocomposites</i>
P4.25	Edwin Alexandru LASZLO	<i>Characteristics of thin high entropy alloy films grown by pulsed laser deposition</i>
P4.26	Edwin Alexandru LASZLO	<i>Electrochemical properties of high entropy alloy thin films grown by pulsed laser deposition</i>
P4.27	Bogdan BUTOI	<i>Deposition of Fe<sub>2</sub>O<sub>3</sub> doped PANI thin films by DC plasma polymerization</i>
P4.28	Alina Irina RADU	<i>Organic photovoltaic structures based on 1,10-Phenanthroline and 5,10,15,20-Tetra(4-pyridyl)-21H,23H porphine non-fullerene thin films acceptors</i>
P4.29	Claudiu Teodor FLEACA	<i>Ternary Si-Ge-Sn based nanopowders synthesized by single-step laser pyrolysis</i>
P4.30	Lucica BOROICA	<i>The influence of the quality of substrate on the film structure</i>
P4.31	Rovena PASCU	<i>Surface Plasmon ultrathin layers of Ag on Si(001) by RF Magnetron Sputtering</i>
P4.32	Daniel TOFAN	<i>Surface modification of black phosphorus for ambient protection and electronic tuning</i>
P4.33	Bogdan BITA	<i>Electrical measurements of carbon coatings on gas sensors</i>
P4.34	Laurentiu DINCA	<i>Free-standing carbon targets for commissioning experiments at ELI-NP</i>

### **Topic 5**

### **Modern applications in environment, life sciences and energy**

P5.21	Gabriela CRACIUN	<i>Polyelectrolytes obtained by electron beam irradiation</i>
P5.22	Elena MANAILA	<i>Composites based on natural rubber and plasticized starch obtained by electron beam irradiation</i>
P5.23	Daniel IGHIGEANU	<i>Composites based on natural rubber reinforced with mineral and organic fillers – degradation by electron beam irradiation</i>
P5.24	Maria DEMETER	<i>Highly biocompatible and antimicrobial hydrogels composites produced by e-beam crosslinking</i>
P5.25	Elena STANCU	<i>Electron beam irradiation of magnesium-doped hydroxyapatite/chitosan composite coatings</i>
P5.26	Natalia MIHAILESCU	<i>Corrosion studies, biocompatibility and antimicrobial features of Mg/Mg-based alloys as biodegradable metallic implants</i>
P5.27	Tatiana TOZAR	<i>Designing gelatin methacrylate hydrogels using pulsed UV radiation for controlled delivery of chlorpromazine</i>
P5.28	Mirela BRASOVEANU	<i>Effects induced in biopolymer powder by radio-frequency plasma processing</i>

P5.29	Oana GHERASIM	<i>Wound healing modulation by composite polymeric films loaded with ibuprofen and hyaluronic</i>
P5.30	Simona STROESCU (NISTORESCU)	<i>Comparative study of magainin and melittin peptides embedded in copolymeric matrix effects on different microbial strains</i>
P5.31	Simona STROESCU (NISTORESCU)	<i>New potential nanosystem for improvement of PDT efficiency on human melanoma</i>
P5.33	Rodica CRISTESCU	<i>Multifunctional core-shell Fe<sub>3</sub>O<sub>4</sub> nanoparticle thin films with antimicrobial activity for biomedical applications</i>
P5.34	Andra DINACHE	<i>Photophysical properties of porphyrins loaded TiO<sub>2</sub> nanoparticles</i>
P5.35	Emanuel AXENTE	<i>Picosecond laser-assisted processing of photosensitive glass for the fabrication of cellular microenvironments</i>
P5.36	Florin JIPA	<i>Glass biochips fabricated by ultrafast laser processing for evaluation of ionizing radiation effect on cancer cells</i>
P5.37	Cristina Elena STAICU	<i>Laser processing manufacture of microfluidic devices for mimicking blood brain barrier</i>
P5.38	Alexandru MINICEANU	<i>Laser direct writing via two photon polymerization (LDW via TPP) of 3D microstructures for biological applications</i>
P5.39	Ana-Maria UDREA	<i>Predictions of the TPPS photosensitizer pharmacodynamics as a cancer treatment using molecular docking</i>
P5.40	Ana-Maria UDREA	<i>In silico study of laser-irradiated phenothiazines in interaction with the SARS-Cov-2 main protease</i>
P5.41	Adriana SMARANDACHE	<i>Tissues Imaging with White Light Diffraction Phase Microscopy (wDPM)</i>

## Emergencies

Note that the emergency number in Romania is 112. It is possible to call 112 even without a SIM card. In addition to Romanian, the calls are answered in English, French, Hungarian, German, Italian, Spanish and Russian, depending on the call center.

On behalf of National Institute for Laser, Plasma and Radiation Physics (INFLPR), we are honored and happy to welcome you to the 1st Edition of International Conference on Laser, Plasma and Radiation- Science and Technology (ICLPR-ST) at Bucharest, Romania. We hope that the scientific program and the Conference venue at the famous Palace of Parliament will guarantee the success of our event.

The ICLPR-ST conference is dedicated to scientists and industry leaders to debate advances in laser, plasma and radiation technology and advanced forthcoming applications. It covers various topics in lasers and optics, plasma and radiation physics, photonics, laser technologies, ultrafast phenomena, laser and plasma materials processing, new applications in environment, life sciences and energy for a sustainable future.

This program is rich and allows all participants meeting and interacting one another. I hope for a fruitful and long lasting experience with us. With your kind support and participation, we hope to continue this tradition for a long time.

Cristian Mihailescu  
General Director INFLPR





NOTES

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# PROGRAMME

EEST Time = GMT + 3	Tuesday, 7 <sup>th</sup> June	Wednesday, 8 <sup>th</sup> June	Thursday, 9 <sup>th</sup> June	Friday, 10 <sup>th</sup> June
8:00 - 8:30	Access to Parliament Palace			
8:30 - 8:45	<b>REGISTRATION</b>	<b>Peter BRUGGEMAN</b> <i>Plenary 2</i>	<b>Takunori TAIRA</b> <i>Plenary 3</i>	<b>Sid Ahmed BELDJILALI</b> <i>I-15</i>
8:45 - 9:00				
9:00 - 9:15		<b>OPENING CEREMONY</b>		
9:15 - 9:30		<b>Thomas LIPPERT</b> <i>Plenary 1</i>	<b>Gabriel POPESCU</b> <i>I-06</i>	<b>Hasan CHAMATI</b> <i>I-11</i>
9:30 - 9:45	Aaron PELED <i>O-06</i>			
9:45 - 10:00	Bianca TATARCAN <i>O-07</i>		Dan Gh. MATEI <i>O-17</i>	Tian TIAN <i>O-27</i>
10:00 - 10:15	<b>Razvan STOIAN</b> <i>I-01</i>	Mohamed Ali ANTOISSI <i>O-08</i>	Andrei STANCALIE <i>O-18</i>	Jan HANUS <i>O-28</i>
10:15 - 10:30		Izabela JINGA <i>O-09</i>	Emil Mihai PAVELESCU <i>O-19</i>	Bogdan SAVA <i>O-29</i>
10:30 - 10:45	<b>COFFEE BREAK</b>			
10:45 - 11:15	<b>Annemie BOGAERTS</b> <i>I-02</i>	<b>Traian DUMITRICA</b> <i>I-07</i>	<b>Calin UR</b> <i>I-12</i>	<b>Stefan Ioan VOICU</b> <i>I-16</i>
11:15 - 11:45	<b>Lenka ZAJICKOVA</b> <i>I-03</i>	<b>Koji SUGIOKA</b> <i>I-08</i>	Daniel URSESCU <i>O-20</i>	<b>Murat SEN</b> <i>I-17</i>
11:45 - 12:00			Ioan DANCUS <i>O-21</i>	
12:00 - 12:15	Pascal BRAULT <i>O-01</i>	Alexandra PALLA – PAPAVALU <i>O-10</i>	Mihail CERNAIANU <i>O-22</i>	Anita Ioana VISAN <i>O-31</i>
12:15 - 12:30	Monica NEMTANU <i>O-02</i>	Dror MALKA <i>O-11</i>	Liviu NEAGU <i>O-23</i>	Gianina POPESCU PELIN <i>O-32</i>
12:30 - 12:45	<b>LUNCH</b>			
12:45 - 13:00	Florin ANDREI <i>O-12</i>		Olimpia BUDRIGA <i>O-24</i>	Merve Erginer HASKÖYLÜ <i>O-33</i>
13:00 - 14:30	<b>Christian GRISOLIA</b> <i>I-04</i>	<b>Peter SCHAAF</b> <i>I-09</i>	<b>Jean-Paul GAUFILLET</b> <i>I-13</i>	<b>Jan LANCOK</b> <i>I-18</i>
14:30 - 15:00	<b>Andrea MURARI</b> <i>I-05</i>	<b>Sylvain LECLER</b> <i>I-10</i>	<b>Selma MEDEDOVIC THAGARD</b> <i>I-14</i>	<b>Laurentiu BRAIC</b> <i>I-19</i>
15:00 - 15:30	Florin SPINEANU <i>O-03</i>	Diana CHIOIBASU <i>O-13</i>	<b>Industrial workshop</b>  Madalin IONITA  Liana SOCACIU – SIEBERT  Ion TISEANU	Florin NEDELICUT <i>O-34</i>
15:30 - 15:45	Madalina VLAD <i>O-04</i>	Andrei POPESCU <i>O-14</i>		Iulia ANTOHE <i>O-35</i>
15:45 - 16:00	Calin ATANASIU <i>O-05</i>	Mihai SOPRONYI <i>O-15</i>		Andrei STOCHIOIU <i>O-36</i>
16:00 - 16:15	<b>COFFEE BREAK</b>			<b>Closing ceremony and awards</b>
16:15 - 16:30	<b>POSTER SESSION 1</b>	<b>POSTER SESSION 2</b>	<b>Visit to Parliament House</b>	
16:30 - 18:00	<b>FESTIVE DINNER</b>			
20:00 - 23:00				